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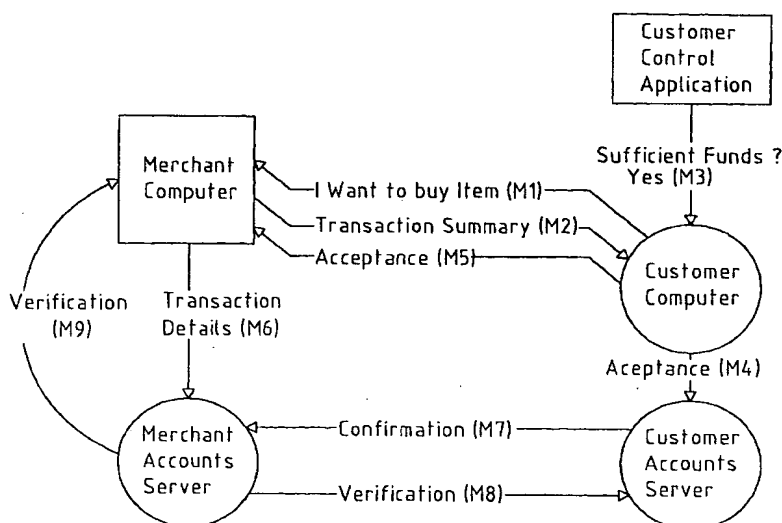
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(54) Title: A NETWORK-BASED SYSTEM



(57) Abstract: A transaction settlement system and method for internet and other trading over a telecommunications network. Customer computers and merchant computers are connected to customer account servers and merchant account servers respectively, the former maintains a customer account and conducts the financial aspects of the transaction with the merchant server without revealing the customers identity. The sequence of the messages are such that once in message M4, the customer computer instructs the customer accounts server to accept the transaction and the customer accounts server accepts it, the customer accounts server deals with the merchant accounts server to settle the account in accordance with agreed procedures. The merchant can have surety of payment. There is also provided methods to deliver coupons, e.g. discount coupons and to ship goods with anonymity.

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**"A network-based system"**

**Introduction**

5     The present invention relates to a method of conducting a transaction in a trading system. The invention is particularly directed to a trading system where a merchant sends goods and/or services to a customer when the customer is generally located remotely from the merchant. The invention is also directed towards providing a system for carrying out such transactions. The invention is particularly directed to the carrying  
10    out of the financial transactions and is not concerned particularly with the actual method of trading.

There are many methods of trading over the Internet and the present invention is not directed to such methods, whether they be quotations systems, brokering systems,  
15    methods of filling and replenishing shopping baskets, and so on.

Presently, there are numerous systems for trading on the Internet. The most common form of settling a payment between a customer and a merchant is with the customer using a credit card. The customer gives the merchant the customer's credit card  
20    details in order to effect a transaction. Essentially, before a merchant can get paid, the merchant has to check that the credit card is valid and that further, the person using the credit card is the authorised person. Generally, this is carried out by the merchant authorising the transactions with some clearing or authorising agency. The merchant, if the merchant is to be paid, must validate the identity of the card holder before  
25    concluding the transactions, otherwise, the merchant may be liable for any fraud that may be committed. Merchants cannot carry out authentication of every transaction and therefore suitable checking does not occur in practice. Many transactions are only validated in batch by a clearing or acquirer bank later than the trade was carried out or alternatively, merchants accept the validity or at least assume the validity of a  
30    credit card number proffered when the value of the trade is below some predetermined amount. These systems leave the merchant wide open to fraud and to abuse by those wishing to carry out a trade with the merchant using a stolen credit card number. It is important to appreciate that it is only the number that needs to be stolen. This, therefore, leads directly to the problem for the consumer in that, if the consumer

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releases his or her credit card number, they have no control subsequently on a third party illegally using that credit card number in Internet trading.

Due to the explosion of Internet trade recently, fraudulent use of credit cards has become a problem. Because the Internet shields the identity of the person using the credit card, all that is required is that a fraudster acquires the details of a valid credit card. These details can then be used, as suggested above, to purchase goods and services below a specific monetary value without detection. Several security systems have been developed to combat this problem, including complex encryption methods, certification systems and third party verification systems. None of these systems can prevent all types of fraud and most only act as a confidence builder for the customer. Currently, because of inefficiencies with regard to time delay and because of the cost and effort in effecting authorisation and authentication, the majority of systems are implemented such that transactions below a certain value bypass most of the security systems. A problem associated with complex security systems used to prevent fraud is that they add to the cost of and delay the completion of each transaction. They require the card holder to supply to the merchant personal details of the customer that restrict the ease of use of these security systems. It is off-putting and time consuming for the customer to enter all these details. Another problem for the customer is that the security systems introduce a delay for the customer which can be quite annoying and infuriating for the customer trying to effect a trade on the Internet. This tends to discourage people carrying out transactions on the Internet.

Another problem associated with effecting transactions on the Internet is the fact that any transaction conducted over the Internet costs some amount of money for the credit card company, the cost being a transaction cost rather than a percentage of the value of the transaction. This means that there is a break even point for the credit card company below which the transaction does not make a contribution. This makes credit card payments on the Internet unsuitable for a large number of small value transactions. Another problem associated with effecting transactions on the Internet is the high incidence of disputed payments. Again, these are a source of considerable cost to the financial institution. These may result from fraud, error or even forgetfulness.

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One of the effects of the amount of card-not-present fraud is that consumers are more and more reluctant to disclose their credit card number during this type of trading. There have been too many instances where third parties, not necessarily the merchant, have perpetrated such crimes. In some cases there have been fraudulent  
5 merchants who have used a consumer's credit card number to subsequently deliver additional goods to the credit card user, which additional goods the credit card user often has extreme difficulty in returning or refusing to pay for. This type of fraud where the merchant supplies additional goods or services to the consumer because the merchant has got the consumer's credit card number, is on the increase. A further  
10 problem is that, for example, some employee of a merchant or some other third party may obtain details of a customer's credit card number and even more importantly, may obtain details that are required to authenticate the credit card such as, for example, the consumer's age, address and other personal information that is required by many an acquiring bank before they will clear a credit card transaction over a certain amount.  
15 Thus, the consumer, in addition to not wishing to disclose his or her credit card number, is now extremely reluctant to disclose those personal details which would allow the consumer to be more closely identified and even more so, to have their credit card number more easily authenticated.

20 In some ways, these problems are exacerbated, as mentioned above, in relation to small amounts of money. People wish to use the Internet to trade but they wish to do it simply and efficiently. If you have to carry out the same transaction procedures and the same authentication to have a payment for a minor sum of money cleared, as you do for a major amount, then using this form of credit card payment over the Internet  
25 becomes virtually unworkable. It is too cumbersome for the consumer and too expensive for the merchant and financial institutions.

A further problem for the consumer which is not necessarily directly related to fraud, although obviously partially concerned therewith, as explained above, is the question  
30 of anonymity. The consumer, for many reasons, may not wish to give his or her name and, even more importantly, address to a merchant. There can be many reasons for this such as, for example, the consumer may not wish other people to know that they have purchased from that particular site or the consumer may not wish to be subsequently bombarded with what is effectively junk mail from that particular

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merchant. Thus, there are many reasons other than the simple security one whereby the consumer wishes to retain anonymity.

5 In summary, therefore, the financial institutions want to, as far as possible, have a system that will allow the consumer purchase over the Internet which will be efficient, relatively inexpensive and, as important, profitable for the financial institution. The financial institution does not want to be clearing relative small sums of money for transactions on a regular basis, nor indeed does it want to be accounting individually to a merchant for these small sums of money as the total cost of handling the  
10 transactions becomes inordinate. For the merchant, they want to be able to be paid efficiently and effectively. The merchant wants to avoid cumbersome systems that may or may not protect him from fraud. They want to be able to supply the goods and/or services to the customer with the minimal amount of checking and at the same time, with security that they will subsequently be paid.

15 Finally, the consumer requires anonymity in many instances and further, requires that an efficient and fraud free method of accounting for such transactions be available. Lastly, the customer wants an accounting system which is accurate and transparent.

20 The present invention is directed towards providing efficient and secure transaction settlement and accounting procedures which will overcome the problems referring to above.

#### Statements of Invention

25 According to the invention there is provided a method of conducting a transaction in a trading system where a merchant sends goods and or services to a customer comprising: a customer accounts server; a merchant accounts server; a system services server; merchant computers each having a merchants account  
30 associated therewith; customer computers each having a customer account associated therewith; and a telecommunications network interconnecting the servers and the computers, each computer and server having a unique identifier for contact within the network, the method comprising the steps of:-

- 5 -

the customer computer opening communications with the merchant computer;

the customer computer communicating its intention to purchase from the merchant computer;

5

the merchant computer sending a merchant transaction identifier number and payment request to the customer computer;

10

the customer computer sending a transaction acceptance message which includes the merchant transaction identifier number and as an addition to the transaction message sends a unique customer transaction identifier to the customer accounts server;

15

the merchant computer sending the transaction acceptance message to the merchant accounts server;

20

the customer accounts server sending a payment acceptance message including the transaction acceptance message to the merchant accounts server;

25

the merchant accounts server matches the transaction acceptance message received from the merchant computer and the payment acceptance message received from the customer accounts server; and

30

the merchant accounts server sending instructions to the system services server to cause payment to the merchant in accordance with an agreed settlement procedure having agreed payment rules.

This is a totally secure system in the sense the customer has not identified himself or herself in any way to the merchant. At the same time, the merchant is happy in the sense that confirmation of the transaction has been received by the merchant and the merchant can be sure that the account will be paid.

In one embodiment according to the invention the customer computer accepts the

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transaction by sending the transaction message to the merchant computer and/or additionally may in certain instances add a customer transaction audit identifier. The advantage of this is that customer can now have a full audit trail on the particular transaction.

5

In one method according to the invention the merchant accounts server sends matching confirmation of the transaction acceptance message and the payment acceptance message to the merchant computer.

10 In another embodiment of the invention the merchant accounts server sends confirmation of the matching payment acceptance message and the transaction acceptance message to the customer accounts server.

15 Ideally prior to the customer accounts server sending the payment acceptance message, the customer accounts server causes the customer account to be debited.

In accordance with the invention the initial steps are performed of:-

20 preparing the customer account including payment credit limit rules for the customer;

storing the customer account as an account control application in the customer accounts server;

25 downloading the account control application to the customer computer; and

storing the account control application on the customer computer.

30 In this latter method on receiving a merchant transaction identifier number and payment request from the merchant computer, the customer computer sends the payment request to the account control application and only if the payment request is within the payment credit limit rules does the customer computer carry out the step of accepting the transaction.

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Preferably on the payment request being sent to the account control application, the customer account is debited.

5 In one of steps according to the invention on the merchant computer sending the merchant transaction identifier number and payment request to the customer computer, the merchant computer sends detailed product and billing information with it to the customer computer.

10 In one method on the merchant computer sending the merchant transaction identifier number and payment request to the customer computer:-

the merchant computer sends detailed product and billing information with it to the merchant accounts server,

15 the merchant accounts server sends this message to the customer accounts server, and

the customer accounts server sends the message to the customer computer.

20

In these latter methods on receiving the detailed product and billing information and on sending the transaction acceptance message, the customer computer stores the product and billing information.

25 In one embodiment of the invention on a payment being made to the customer account, the customer account is credited and updated.

30 In accordance with the invention when the transaction requires the physical delivery of goods to the customer by way of a package and the customer wishes to be anonymous by not sending the merchant computer precise delivery details including the name and address of the customer, the customer computer informs the merchant computer that it requires anonymity, one of the customer computer and the merchant computer nominates a preferred shipper having a shipper computer connected to the telecommunications network and on the other



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accepting the nomination, the steps are performed of:-

- the customer computer sends the shipper details to the customer accounts server;
- 5 the shipper computer receives sufficient information to allow the shipper accept the package from the merchant for delivery;
- 10 the customer accounts server sends to the shipper computer the precise delivery details;
- the merchant entrusts the package to the shipper, together with the merchant transaction identifier number;
- 15 the shipper computer records the acceptance of the package in the shipper computer; and
- on delivery of the package, the shipper computer records the delivery details and sends them to the customer accounts server.
- 20 In this latter method the customer accounts server does not send the precise delivery details to the shipper computer until the shipper computer confirms receipt of the package from the merchant.
- 25 Preferably the customer accounts server sends confirmation of delivery to the merchant accounts server.
- Further the merchant accounts server sends the confirmation of delivery to the merchant computer.
- 30 In accordance with the invention when the transaction requires the physical delivery of goods to the customer by way of a package entrusted to an agreed shipper having a shipper computer connected to the telecommunications network:-

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the customer accounts server, on sending the payment acceptance message to the merchant accounts server stipulates payment subject to proof of delivery as a payment rule;

5       on delivery, the shipper computer sends confirmation of delivery to the customer accounts server; and

10       the customer accounts server sends the confirmation of delivery to the system services server to cause the agreed settlement procedure to be updated.

In this latter embodiment of the invention when the nature of the transaction requires the customer to pay directly an additional sum by way of taxation to a government body, the following steps are performed:-

15       the merchant computer sends with the merchant transaction identifier number, product identification sufficient to determine the tax due;

20       the taxation due is calculated;

25       the taxation due is added to the amount of the payment request as a consolidated payment request in the customer computer;

30       sending of the transaction acceptance message to the customer accounts server, the customer accounts server sends instructions to the system services server to cause payment to the government body.

The tax calculation may be carried out on the customer computer or, alternatively, the steps are performed of:-

35       the customer computer sends the merchant payment request to the system services server for the tax computation;

40       the system services server calculates the taxation; and

- 10 -

the system services server sends data on the taxation due to the customer computer to form the consolidated payment request.

5      Ideally for these methods of tax computation:

an international tax reference code is downloaded to the merchant computer; and

10      the merchant computer, on receiving an order, uses the international tax reference code in the product identification.

In another method according to the invention:

15      the merchant computer opens communications with the system services server;

the merchant computer sends a coupon having a monetary value and redemption rules to the system services server;

20      the system services server sends the coupon to the customer computer;

the customer computer sends the coupon details to the customer accounts server on sending the transaction acceptance message;

25      the customer accounts server sends the coupon details to the merchant accounts server;

30      the merchant accounts server accepts the coupon to be used in at least part payment; and

the merchant accounts server sends the coupon details to the system services server on sending instructions to the system services server to cause payment to the merchant.

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In this latter method the system services server sends the coupon to the customer computer by first sending it to the customer accounts server.

- 5 In many instances the coupon will be customer specific and then the steps are performed of:-

the merchant computer sends, with the coupon, merchant transaction identifier numbers; and

10

the merchant transaction identifier numbers are used to identify the customer computers to whom the coupons are to be sent.

In one embodiment of the invention the settlement procedure comprises:-

15

the system services server setting up a merchant account;

the merchant account server stores the payment acceptance message as an account receivable due for payment in accordance with the agreed payment rules;

20

the merchant account server downloading to the system services server, the accounts receivable requiring settlement; and

25

the system services server crediting the merchant account with the payment due.

Ideally after an agreed time interval, the merchant account server sends to the merchant computer details of accounts receivable which have not yet been settled.

30

In a further embodiment, the steps of the method up to at least the merchant accounts server matching the transaction acceptance message received from the merchant computer and the payment acceptance message received from the customer accounts server are carried out in real time.

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Further the invention provides a trading system for carrying out a transaction between a merchant and a customer where the merchant sends the goods and services to the customer, the transaction being carried out over a communications network where the  
5 initiating party, namely the customer, to the transaction contacts the merchant through the intermediary of a third party, while if required maintaining anonymity for the customer, the system comprising:

10 a system services server (8);

a customer account server (7) for connection to a customer computer (2);

a merchant accounts server (6) for connection to a merchant computer (3);

15

the customer computer (2) having means for communicating its intention to purchase from the merchant computer (3);

20

the merchant computer (3) having means for sending a merchant transaction identifier number and payment request to the customer computer (2);

25

the customer computer (2) having means for accepting the transaction by sending a transaction acceptance message including the merchant transaction identifier number to the merchant computer (3);

30

the customer computer (2) having means for sending a transaction acceptance message which includes the merchant transaction identifier number as an addition in the transaction message together with a unique customer transaction identifier to the customer accounts server (7);

the customer accounts server (7) having means for sending the transaction acceptance message to the merchant accounts server (6);

the customer accounts server (7) having means for sending a payment

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acceptance message including the transaction acceptance message to the merchant accounts server (6);

5 the merchant accounts server (6) having means for matching the transaction acceptance received from the merchant computer (3) as the payment acceptance message received in the customer accounts server (7); and

10 the merchant accounts server (6) having means for sending instructions to the system services server (8) to cause payment to the merchant in accordance with an agreed central procedure having agreed payment rules.

15 Further the invention provides a trading system for carrying out a transaction between a merchant and a customer where the merchant sends the goods and services to the customer, the transaction being carried out over a communications network where the initiating party, namely the customer, to the transaction contacts the merchant through the intermediary of a third party, while if required maintaining anonymity for the customer, the system comprising:

20 a system services server (8);

a customer account server (7) for connection to a customer computer (2);

a merchant accounts server (6) for connection to a merchant computer (3);

25 the system services server (8), the customer accounts server (7), the merchant accounts server (6) and the customer computer (2) and merchant computer (3) have means for carrying out the method as claimed in any of claims 1 to 27.

30 In accordance with the invention there is provided a computer program comprising program instructions for causing a computer to perform the method as laid out above, or when loaded into a computer constitute the processing means as described above.

A computer program may be embodied on a record medium, a computer memory, a read-only memory or carried on an electrical signal carrier.

**Detailed Description of the Invention**

5 The invention will be more clearly understood from the following description of some embodiments thereof, given by way of example only, with reference to the accompanying drawings, in which:-

Fig. 1 is a diagrammatic layout of a trading system in which the method according to the present invention is used;

10

Fig. 2 is a diagrammatic representation of the trading system; and

Figs. 3 to 8 are flowcharts of the major features of the invention.

15 Referring to Fig. 1, there is illustrated a trading system, indicated generally by the reference numeral 1, comprising a plurality of customer computers 2 and merchant computers 3 all connected together over the Internet. Only the one internet service provider is shown, all of which are provided by a telecommunications network 4. Also, within the system, there may be a number of financial institutions  
20 such as banks 5, again connected to the telecommunications system. Further, there is provided a merchant account server 6 and a customer account server 7, together with a system services server 8. Only one merchant account server 6 and one customer account server 7 is shown. However, it will be appreciated that a number of merchants might be all connected to one merchant account server and another number of merchants connected to another merchant account server.  
25 Further, some of the customer's computers may be connected to one customer account server and others to another customer account server.

Each customer computer 2 has associated therewith a customer account. Further,  
30 each customer computer 2 has downloaded thereon a customer control application 10. This customer control application 10 contains details of the customer account, which customer account is also stored in the customer account server 7. Each merchant has on the merchant account server 8, a merchant's account stored on that server. The merchant account server 8 and the customer

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account server 7 are separate servers. Although they may be provided on the one computer, they are maintained separately but could equally well be provided on different computers. The system services server 8 provides many of the control functions and also provides certain additional computer programs and services  
5 that could not be easily supplied by each of the customer control applications 10 or the customer computers 2. For example, the system services server 8 might include taxation and other duty computation software, a coupon or discount handling server and various other servers or service providers to the whole system. However, these are all generally described under the term "system  
10 services server". It will be appreciated that to a certain extent, this terminology is restrictive. However, it is used to facilitate the understanding of the invention without reciting a large number of servers.

It will be appreciated that there are many ways of carrying out the invention and  
15 there are many checks and verifications that must be carried out, however, it is advantageous to consider the invention in its simplest form to identify how the invention would be carried out.

Referring to Fig. 2, there is illustrated some of the steps that are carried out, not  
20 necessarily all of them are carried out with each transaction, however, the steps are laid out and describe, in broad outline, the method according to the present invention.

It is presumed in the description that all the various trading steps have been  
25 carried out between the customer computer and the merchant computer, for example, the downloading of shopping baskets, enquiries, etc. for the merchant computer to and from the customer computer and that, at some stage during the operation, the merchant computer will either dispatch goods to the customer or will simply download the goods over the internet to the customer. Various methods for  
30 the downloading and sending of goods will be described hereinafter, however, at this stage, it is presumed that there is no difficulty whatsoever for the customer in having the goods either sent physically by the merchant to him or her, or simply to download it over the internet. Obviously, if downloaded over the internet, there is no identification of the customer who is anonymous.



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Prior to carrying out the method, there is established, on the customer computer, the customer control application which contains details of the customer account. These could be established in a myriad of ways. Simply, a customer could lodge  
5 with the system services server a sum of money, which sum of money would be lodged to the customer account server, which sum of money would then allow the customer control application to be established, the customer control application having the details of the customer account. Alternatively, the customer account server could simply have credit card details with details of bank who would simply  
10 pay any sums of money up to a particular limit incurred by the customer. One could envisage a situation where customers might wish to establish directly, a credit account with the customer account server, that is to say, the operator of the system. However, all that is required is that the customer control application is effectively a customer account that has a sum of money in it that the customer can  
15 spend. With this customer control application established and the customer computer connected to the customer account server who also has the identical information, the customer computer can then trade over the internet with a merchant computer, once the merchant computer is connected to a merchant account server, which merchant account server is part of the system or is  
20 connected to be able to communicate with the customer account server.

Briefly, therefore, the transaction is carried out by the transmittal of a number of messages in real time between the various computers and servers.

25 **Message No. 1 (M1) – Intention to Buy**

In the first message, the customer computer, having already contacted and conducted a trade with the merchant, signifies to the merchant computer that the customer computer wishes to buy one or more items. Therefore, the customer  
30 computer transmits to the merchant computer this message M1 by, for example, clicking an icon.

**Message No. 2 (M2) – Transaction and Payment Request**

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When the merchant computer receives message M1 from the customer computer, the merchant computer then downloads or sends a merchant transaction identifier number and payment request to the customer computer. The exact format of the merchant transaction identifier number can change but since merchants already  
5 have their own merchant transaction identifiers, this number will be used, together with the merchant's own identifier of the type used with financial institutions, and also, ideally a product identifier, which product identifier number is one that is internationally recognised since, as will be explained hereinafter, the invention can be used for the computation of tax and duty payable. Obviously, in a multi-product  
10 sale, there will be more than one product identifier number. Therefore, ideally, the merchant computer, on receiving an order, uses the international tax reference code in the product identification. Essential message M2 is the first transaction identifier.

15 **Message No. 3 (M3) – Customer Control Application**

When the customer computer obtains what is effectively an invoice comprising the transaction summary and the payment request, namely, message M2, from the merchant computer, the customer computer consults the customer control  
20 application to see are there enough funds or can the payment be made. If there are enough funds, then the customer computer continues with the operation.

**Message No. 4 (M4) to Customer Accounts Server**

25 In message number 4, the customer computer, having had the transaction cleared by the customer control application, sends the same information to the customer account server. Presuming that the customer account server accepts the trade, the transaction proceeds. One situation where the customer account server would not accept this transaction would be where the customer had, in some way,  
30 attempted to interfere with the information on the customer control application or where some fault in the system had occurred. However, in general terms, this message is only a check on the availability of funds and the fact that the customer account server will assume responsibility for the payment.

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**Message No. 5 (M5) – Acceptance to Merchant**

In message M5 which is essentially optional, the customer computer informs the merchant computer that the transaction has been accepted and thus the merchant  
5 computer now has an acceptance of the transaction.

**Message No. 6 (M6) to Merchant Accounts Server**

The merchant computer then downloads to the merchant accounts server, the  
10 transaction details, that is to say, the information that was sent in message M2 to the customer computer. These are then delivered, in message M6, to the merchant account server, where the merchant account server will store the details.

**Message No. 7 (M7) to Merchant Accounts Server**

15 The customer account server, having accepted the fact that the account will be paid, sends confirmation to the merchant account server which is effectively a payment accepted message including the transaction acceptance message. The merchant account server now has confirmation that the customer account server is accepting the  
20 payment.

**Message No. 8 (M8) – Verification to Customer Accounts Server**

In message M8, the merchant account server confirms to the customer account server  
25 that it has received verification of the payment and that the transaction has been accepted.

**Message No. 9 (M9) – Verification to Merchant**

30 The merchant account server can also send verification to the merchant computer that everything is in order and that the payment will be made and that the merchant can dispatch the goods.

It will be appreciated that in many cases the messages will be carried out simply by the

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click of a button, or some other simple means.

It will be appreciated that this is a relatively simplistic way of looking at the invention and that, for example, the merchant computer may not necessarily need verification, i.e. message M9, that the merchant account server has received confirmation because there can be a system in place whereby, if the merchant computer does not receive confirmation or verification within a certain period of time, a query can be raised. Similarly, the fact that the customer account server has sent confirmation message M7 to the merchant account server does not necessarily have to be verified and confirmed by the merchant account server in message M8. Obviously, various checks will be carried out by the merchant account server such as, for example, comparing the confirmation message from a customer account server with the transaction details downloaded by the merchant computer.

Essentially, as each trade and transaction is carried out, the merchant account server will store the various payments.

It will be appreciated, for example, that the merchant account server will be linked to the system services server which will have an account established for the merchant. Then, the merchant account server will send items for payment to the system services server, which items will have already been approved by the customer account server and therefore will be credited by the system services server to the merchants account. At various stages, the merchant can download the payments as desired.

Referring now to Figs. 3 and 4, there is illustrated a somewhat more detailed operation of the method according to the invention. In step 100, the customer computer logs onto the system. This will be done in the usual way through the internet which will then allow the customer computer, in step 101, to contact the merchant computer. In step 102, which may take many steps and to and fro between the merchant computer and the customer computer, the customer computer will conduct negotiations with the merchant computer. At no stage, will the customer, during this communication, be identified to the merchant. They will merely be connected through the Internet. Thus, for example, a rogue merchant will not gather any information that will permit a fraud to be committed either then or in the future, nor indeed can the hacking of a merchant

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site result in any information being accessed that will allow fraud to be committed on the customer.

In step 103, the customer computer indicates to the merchant computer the intent to purchase. In step 104, the merchant computer will, with the payment request, send down a merchant transaction number and payment request. Usually, it will include the same merchant identifier number that is normally sent to, for example, to an acquirer bank or the like, which very often is not normally sent to a customer. This will be sent with the product identifier number. The product identifier number will ideally be, as mentioned already, in accordance with some internationally known code. In addition, the merchant computer will send the actual item identifier for the customer computer. In other words, one composite message will contain all this information. Also, with that, will be the actual amount required for payment, namely, the payment request. In step 105, the customer computer will access the account control application on which is sitting the customer's balance. As has been explained already, the customer's balance can be anything from an unlimited balance, for example, if a customer's account was backed by American Express, to an actual fixed sum of money, or to some other credit limit. Then in step 106, the accounts control application considers the request, in other words, carry out suitable checks such as comparing it with the credit limit and then either, in step 107, rejects the transaction in which case the customer computer cannot continue with the transaction, or alternatively, it accepts the transaction and then in step 108, the customer account is debited. In step 109, the customer computer adds an audit number to the number previously downloaded by the merchant computer. This audit number can be used by the customer computer and the customer account server to keep an exact control and audit trail on the customer's account. It will be appreciated that the present system is directed particularly to this accountancy and control function. The audit number is not essential but can be quite useful. Indeed in most systems an audit number will be used. The audit number would simply be the next sequential number and does not have to be, in any way, a secret number.

In step 110, the customer computer sends to the customer account server, the same information. This is a security procedure such that if the customer computer had in some way altered the accounts control application to make the accounts control

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application accept a trade, the customer account server would immediately spot the problem and would abort the transaction. Ideally, with the message from the customer computer to the customer account server, there is an identification code used. The identification code used may be any suitable algorithm, PIN number or anything that is required. One great advantage of such an algorithm or transaction key is that an outsider looking into the transaction does not have enough information to replicate another valid transaction, in other words, defraud the system.

In step 111, the customer computer sends acceptance to the merchant computer and the merchant computer who, in step 112, downloads that acceptance to the merchant account server. In step 113, the customer account server, having validated the transaction, downloads confirmation to the merchant account server. In step 114, the merchant account server compares the information received from the merchant computer with the information received from the customer account server and, presuming they both match, then in step 115, the merchant account server sends confirmation of the transaction to the merchant computer and in step 116, sends confirmation of receipt of the payment agreement to the customer account server. In step 117, the merchant account server sends a payment request to the system services server. Steps 115 and 116 are optional. How the merchant gets paid again is a question entirely relating to how the system is set up and does not impinge on the operation of this invention.

It will be appreciated that since all the communication that could identify the customer has taken place between the customer computer and the customer account server and the merchant account server does not receive any identification of the customer from customer account server, anonymity is maintained.

Referring now to Figs. 5 and 6, there are two situations that need to be addressed in the method according to the present invention. The first situation is where the merchant has to deliver goods physically to the customer, rather than simply download goods onto the internet such as, for example, the provision of some service such as a betting service or the downloading of music, films and the like. The customer, at the same time, may not wish to divulge his or her address or name to the merchant as he or she may still require anonymity. Thus, when the transaction requires the specific

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delivery of goods to the customer by way of a package and the customer wishes to be anonymous by not sending the merchant computer precise delivery details, including the name and address, then the customer computer has to, in step 150, inform the merchant computer that the customer requires anonymity and is not prepared to  
5 divulge his or her name and address to the merchant computer.

In step 151, the merchant computer or the customer computer nominates to the other party one or more preferred shippers. In step 152, discussions take place between the two parties until a shipper can be appointed. However, generally speaking, this will not  
10 cause any problems in that either the merchant will have shippers that are agreeable to the customer or alternatively, the customer will have shippers that are agreeable to the merchant. Having chosen a nominated shipper, then in step 153, the customer computer gives sufficient information to the shipping computer through the customer accounts server to enable the shipper to collect the package from the merchant. This  
15 information may or may not include full shipping details. This is discussed below. Then in step 154, the shipper computer records acceptance of the package from the merchant with sufficient information being supplied by the merchant to allow the shipper identify the package and match the delivery instructions received from the merchant with those received from the customer accounts server. This information  
20 could be the merchant transaction identifier.

In step 155, the shipper computer confirms to the customer accounts server that the package has been collected. In step 156, the shipper delivers the package to the customer. In step 157, the shipper computer confirms to the customer account server  
25 that the package has been delivered and in step 158, the customer account server confirms the delivery of the package to the merchant account server.

Depending on whether the customer has stipulated that accounts cannot be paid unless proof of delivery has been given, steps 157 and 158 may not be necessary.  
30 For example, depending on the payment terms and conditions that the system controllers have agreed with the merchant, the merchant may indeed have already been paid in the sense that the merchant accounts computer may have already been informed that they can institute the normal payment procedures. If, however, proof of delivery is required, then it is essential that the shipper computer confirms to the

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customer accounts computer, delivery of the package, and then the customer accounts computer must confirm to the merchant accounts computer that the agreed payment procedure may be initiated. Indeed, it will be appreciated that additional steps may be required such as, for example, on receiving confirmation of delivery by the shipper, the customer account server may have to contact the customer computer to ascertain as to whether the customer computer has indeed accepted delivery or whether there is any problem in relation to the delivery.

In accordance with the invention, it is envisaged that trading over the internet will require the reporting of such trade in many jurisdictions to allow tax and other duties to be computed. Needless to say, whether or not the merchant and customer are located in the one jurisdiction, then the local taxation authorities may require, for example, the computation of the payment of a sales tax or some other form of tax such as value added tax (VAT). Similarly, when the particular trade is taking place in two different jurisdictions in the sense that the merchant is in one jurisdiction and is selling into the other jurisdiction, then there may be, particularly in the case of the physical delivery of goods, the imposition of an import or other duty. Obviously, authorities have to, in some way, obtain payment of the taxation and further, for the customer, the customer must be aware of the imposition of such taxation and the amount before engaging in the particular transaction because while superficially, a price quoted by a merchant might appear to be less than the price quoted by another merchant, the final amount due by the customer might exceed the amount quoted or payable to a locally based merchant.

Therefore, many situations, which will be largely dictated by the location of the customer computer rather than the merchant computer can arise and many duties and taxes may have to be calculated.

Referring now to Figs. 7 and 8, there is shown how, in accordance with the invention, tax and duty computation may be performed. In step 200, the merchant computer sends the payment request to the customer computer. This is identical to step 104 as previously described in Fig. 3.

Then, either in step 201, the customer computer calculates the tax and duty due or in



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step 202, the customer computer sends the payment request to the system services server for computation of the taxation. In step 203, the system services server computes the taxation and in step 204, the system services server sends the tax computation to the customer computer. Then, irrespective of whether the customer  
5 computer or the system services server has calculated the tax, the customer computer adds the tax or duty due to the amount stated in the payment request received from the merchant computer and then computes what is in effect a consolidated payment request and then the consolidated payment request is used in the same manner as if it had originally been furnished by the merchant computer with the original payment  
10 request.

In step 206, which is the same step as step 110 of Fig. 4, the customer computer sends the payment request, in this case, the consolidated payment request, to the customer accounts server. The customer accounts server, in step 207, sends the  
15 payment details in relation to the taxation or duty due to the system services server. Then in step 208, the system services server pays the taxation or duty due.

It will be appreciated that the actual manner in which this is carried out will be dependent on the rules imposed by the relevant tax authorities. It will also be  
20 appreciated that the consolidated payment will be dealt with in the same manner as if it was a payment without any taxation.

What needs to be appreciated in relation to the present invention is that many other security and other steps may be performed. However, in essence, the invention is a  
25 relatively simple system of tracking and recording the payments due in respect to internet type transactions where the customer is located remotely from the merchant and further, the nature of the transaction is not such that at least initially the customer's details such as name and address are revealed to the merchant. In effect, the customer accounts server acts as an intermediary between the customer and the  
30 merchant. It will be appreciated that the merchant also needs to sign up to the system in the sense that the merchant has to be connected to a merchant account server, which merchant account server can communicate with the customer account server. Thus, in some instances, many of the customer computers will be connected to one customer account server, other computers will be connected to different customer

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account servers and similarly, merchants will be connected to various merchant account servers. However, for the merchant, there will be the one merchant account server, which merchant account server will handle all the transactions and the merchant account server will ensure, in conjunction with the system services server  
5 which may be in fact in the same organisation as both the merchant account server and the customer account server or equally well may be a totally unrelated server, to receive the funds due to the merchant for the various transactions. Thus, with the merchant account server, there will be associated a account which will be run by the system services server. Thus that account may receive funds from various customer  
10 account servers. However, almost certainly a central settlement will be provided. When there is established a merchant account in the system services server, the system services server and the merchant will reach some agreement as to the manner in which the account is to be drawn down. It may, for example, be drawn down by the merchant having a direct transfer of funds to a merchant's own separate bank account  
15 on a daily basis, or alternatively, the merchant may use the bank account established by the system services server, as any other bank account.

Similarly, with the customer account server and the account established by the customer account server for each customer, they can be operated in many ways. For  
20 example, it can be by way of a simple lodgement of funds on a totally anonymous basis or at least sufficiently anonymous to satisfy any disclosure regulations by the relevant government authorities of the country in which the customer computer is located. The customer account, set up or associated with the customer computer, as well as being an account that is directly linked to the customer account server, could  
25 be, for example, a simple debiting procedure with a credit limit set by a credit card company. Thus, with the customer account, there could be associated a credit card number and if the system services server was the issuer of such a credit card, then the account would be operated in the same way as any other credit card account. Alternatively, it could be a direct debit system or the like from a customer's account.  
30 Effectively, therefore, there are no constraints of the manner in which the customer account can be set up.

In relation to the settlement of the account and in relation to such matters as the calculation of tax, almost certainly, the system services server would not be the one

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server but would comprise a number of service servers such as, for example, a tax computation server, an account settlement server, and so on.

5 It will also be appreciated that many of the steps laid out above are not always necessary to carry out the invention and that in certain other circumstances, additional steps may be carried out. One of the main advantages for the customer is that since all valid transactions are effectively on the customer's computer as soon as executed, a strict control on expenditure and expenses can be maintained. Also, depending on the manner in which the account is being set up, the customer can have considerable  
10 security. For example, if a customer sets up an account in conjunction with the customer account server, which account has a definite total expenditure limit that the customer tops up from time to time, then the customer can ensure that even if the security were to be breached, the customer is prevented from being a victim of fraud beyond the limit of the customer account.

15

One of the major features of the present invention is the fact that the customer computer can add a customer transaction audit identifier to each transaction.

20

For the system services server, if the system services server agrees settlement terms with the merchant such as, for example, 30 days beyond the end of the month in which the transaction took place, then the operator of the system will, in effect, have the use of the customer's money for the period since the customer will have been debited with the funds immediately the transaction has been agreed but the merchant will not be paid immediately. Particularly for small transactions, the merchant, having  
25 his account operated by the merchant account server, ensures that the merchant has an absolute guarantee that payment will be made. It thus becomes a viable proposition for all three of the parties to engage in transactions over the internet, particularly those transactions of low monetary value. As regards the financial institution, the cost of servicing the payments are greatly reduced in the present  
30 invention.

The system services server may or may not be a financial institution and in many instances, may not be but may be a separate operation supplying services to the financial institution.

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It will also be appreciated that the system according to the present invention addresses one of the principal concerns of governments, namely, that the provision of services and goods, particularly those that do not require the transmission of a package through postal or other shipping means from the merchant to the customer, is wide open to the avoidance and evasion of duty and taxes. At the present moment, it is virtually impossible for a government, for example, to prevent establishments to engage, for example, in wagering and betting from an operation offshore, as it were, in relation to the particular country where they are effectively based, in the sense that they are servicing customers or clients in that particular jurisdiction.

Such companies are able to evade, or more properly avoid in a perfectly legal way, the imposition of duties imposed on them if they were to carry out the particular betting operation physically within the jurisdiction. This has obviously considerable implications for many authorities, not just simply in relation to loss of revenue, but in relation to indigenous employment. Almost certainly governments are going to have to regulate this situation by way of mutual agreement, almost certainly under a GATT or the like World Trade Agreement supervised by, for example, the World Trade Organisation (WTO). Once authorities decide that such trade has to be regulated and that the governments of the countries in which the customer is located have to co-operate to ensure that all legitimate taxation is paid, then almost certainly the systems according to the present invention become all the more important.

As explained already many types of computer may be used, not just simply a desk-top computer, or portable computer but can be any suitable arrangement. However, it is envisaged that one of the ways in which the invention will often be carried out will be by way of mobile phone. However, when there is a mobile phone used to carry out the invention then effectively the mobile phone will only be a router of the information and will not necessarily be able to carry out all the computations. Thus, many of the computations will be either stored on a computer in the possession of the customer, or alternatively may be stored on a separate computer operated by the system services server, or more likely by the customer account server.

A classic example in which the invention could be carried out using a mobile phone

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would be for example in what is effectively customer present trading in, for example, a supermarket. Presuming that a mobile phone were to be used, the mobile phone would establish communication with, for example, a check-out computer such as, for example, by way of an infra-red link or simply by phoning the particular check-out.

5    Needless to say then the check-out or till, or check-out computer would operate with respect to the mobile phone in exactly the same way as if the mobile phone were the customer computer. However, effectively the mobile phone acts as a router, but can be easily programmed to display the necessary transaction details on the phone. Any other short message may also be so-displayed. It will be readily appreciated how a

10   mobile phone can be thus adapted to be used in connection with the present invention. The mobile phone would also be fairly useful for example, where a customer wishes to carry out purchases or payment of bills and the like when the customer is not necessarily based or located where his or her computer is, or even more generally where the customer does not in fact have a computer with sufficient

15   functionality to carry out all the methods according to the present invention. It will also be useful for what could be card present transactions where the customer requires anonymity.

In essence the invention provides means for agreeing a transaction between a

20   merchant and a customer, coding said agreed transaction, the customer and merchant each approving the coded transaction with their local accounts servers, and the local accounts servers effecting the transaction. The merchant need not know the identity of the purchaser. Only transactions involving delivery of goods required the purchaser to disclose his or her identity to at least a shipper. Since

25   shippers can be made part of the operation there will not necessarily be any problem in relation to shippers. Since in many instances, the customer will be paying for the shipping directly, it will be in a shipper's interests to effectively establish the shipper computer as if the shipper computer were a merchant computer and therefore have associated therewith a shipper account server and a shipper account. As described

30   above, it will be relatively easy to appreciate how a shipper can protect the identity of the customer. It will be relatively easy for a merchant for example to entrust goods to a shipper with sufficient information to allow the shipper match the goods with the customer. Alternatively it will be easy for a customer computer through the customer accounts server to send to the shipper computer sufficient details to allow the shipper

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computer accept the package on the customer's behalf without the shipper computer disclosing to the merchant the customer's name and address.

5 In another embodiment the identity could be protected via a coded transaction to a trusted third party carrier for example FedEx could provide such a service.

At present, access to the Internet is controlled by Internet Service Providers, Web farms or direct access hereinafter all referred to as Internet Service Providers (ISP) who control the gateways to the internet. Today, any user or customer that wishes  
10 to access the Internet must do so through an ISP.

It will be appreciated that the customer control application can be implemented in a simple software program such as a C++ program or any other program. It does not matter where the customer control application is stored but preferably it will be  
15 stored on the customer computer as well as on the customer accounts server. The customer control application will have the customer's financial details so it will therefore have to be stored in a somewhat secure manner on the customer PC. It is envisaged that the customer will have access to the customer control application by entering a user password or the like.

20 It will be further appreciated that the total transaction may be carried out in real time unless some proof of delivery or other system is required, but essentially in most of the transactions, particular those where the goods or services are downloaded over the Internet all of the transactions can be carried out in real time with consequent security  
25 for the merchant.

It will be further appreciated that the customer may have means to interrogate his transactions and, if required, instigate discussions with the merchant via the control application without recourse to the third parties. This facility will greatly  
30 reduce disputed transactions and the associated cost of the resolution of them.

Effectively, the merchants account will be held by the system services server in a separate system services server account. Sums of money due to the merchant will be credited to that account by the system services server and that money will

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then be transferred to the merchant in accordance with agreed procedures between the merchant and the system services server.

5 All the information which is generated to produce the various messages does not necessarily have to be transferred between all the parties all the time. For example, the information that the customer account requires for audit purposes will not necessarily be stored other than on the customer account and the customer accounts server.

10 It will be appreciated that all the communication over the network can be carried out in encrypted form.

It will be further appreciated that the account server and settling means may take place outside of the Internet. For example, the settling means may be carried out  
15 by a third party in a private network.

It will be appreciated that various aspects of the invention may be embodied on the computer that is running a program or program segments originating from a computer readable or usable medium, such medium including but not limited to  
20 magnetic storage media (e.g. ROMs, floppy disks, hard disks, etc.), optically readable media (e.g. CD-ROMs, DVDs, etc.) and carrier waves (e.g., transmissions over the Internet). A functional program, code and code segments, used to implement the present invention can be derived by a skilled computer programmer from the description of the invention contained herein.

25 In this specification, the terms "comprise", "comprises", "comprised" and "comprising" and any variation thereof and the terms "include", "includes", "included" and "including", or any variation thereof are considered to be totally interchangeable and should be afforded the widest possible interpretation and vice versa.

30

The invention is not limited to the embodiments hereinbefore described but may be varied in both construction and detail within the scope of the claims.

**CLAIMS**

1. A method of conducting a transaction in a trading system where a merchant sends goods and or services to a customer comprising: a  
5 customer accounts server; a merchant accounts server; a system services server; merchant computers each having a merchant account associated therewith; customer computers each having a customer account associated therewith; and a telecommunications network interconnecting the servers and the computers, each computer and server having a unique identifier for  
10 contact within the network, the method comprising the steps of:-
- the customer computer opening communications with the merchant computer;
- 15 the customer computer communicating its intention to purchase from the merchant computer;
- the merchant computer sending a merchant transaction identifier number and payment request to the customer computer;
- 20 the customer computer sending a transaction acceptance message which includes the merchant transaction identifier number and as an addition to the transaction message sends a unique customer transaction identifier to the customer accounts server;
- 25 the merchant computer sending the transaction acceptance message to the merchant accounts server;
- 30 the customer accounts server sending a payment acceptance message including the transaction acceptance message to the merchant accounts server;
- the merchant accounts server matches the transaction acceptance message received from the merchant computer and the payment



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acceptance message received from the customer accounts server; and

the merchant accounts server sending instructions to the system services server to cause payment to the merchant in accordance with an agreed settlement procedure having agreed payment rules.

5

2. A method as claimed in claim 1 in which the customer computer accepts the transaction by sending the transaction message to the merchant computer.

10

3. A method as claimed in claim 1 or 2 in which when sending the transaction acceptance message the customer computer adds a customer transaction audit identifier.

15

4. A method as claimed in any of claims 1 to 3, in which the merchant accounts server sends matching confirmation of the transaction acceptance message and the payment acceptance message to the merchant computer.

20

5. A method as claimed in any preceding claim, in which the merchant accounts server sends confirmation of the matching payment acceptance message and the transaction acceptance message to the customer accounts server.

25

6. A method as claimed in any preceding claim, in which, prior to the customer accounts server sending the payment acceptance message, the customer accounts server causes the customer account to be debited.

7. A method as claimed in any preceding claim, in which the initial steps are performed of:-

30

preparing the customer account including payment credit limit rules for the customer;

storing the customer account as an account control application in the customer accounts server;

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downloading the account control application to the customer computer;  
and

storing the account control application on the customer computer.

5

8. A method as claimed in claim 7, in which, on receiving a merchant transaction identifier number and payment request from the merchant computer, the customer computer sends the payment request to the account control application and only if the payment request is within the payment credit limit rules does the customer computer carry out the step of accepting the transaction.

10

9. A method as claimed in claim 8, in which, on the payment request being sent to the account control application, the customer account is debited.

15

10. A method as claimed in any preceding claim, in which, on the merchant computer sending the merchant transaction identifier number and payment request to the customer computer, the merchant computer sends detailed product and billing information with it to the customer computer.

20

11. A method as claimed in any of claims 1 to 9, in which, on the merchant computer sending the merchant transaction identifier number and payment request to the customer computer:-

25

the merchant computer sends detailed product and billing information with it to the merchant accounts server,

the merchant accounts server sends this message to the customer accounts server, and

30

the customer accounts server sends the message to the customer computer.

12. A method as claimed in claim 10 or 11, in which, on receiving the detailed

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product and billing information and on sending the transaction acceptance message, the customer computer stores the product and billing information.

- 5      13.      A method as claimed in any preceding claim, in which, on a payment being made to the customer account, the customer account is credited and updated.
- 10      14.      A method as claimed in any preceding claim, in which when the transaction requires the physical delivery of goods to the customer by way of a package and the customer wishes to be anonymous by not sending the merchant computer precise delivery details including the name and address of the customer, the customer computer informs the merchant computer that it requires anonymity, one of the customer computer and the merchant computer nominates a preferred shipper having a shipper computer connected to the telecommunications network and on the other accepting the nomination, the steps are performed of:-
- 15
- 20      the customer computer sends the shipper details to the customer accounts server;
- 25      the shipper computer receives sufficient information to allow the shipper accept the package from the merchant for delivery;
- 30      the customer accounts server sends to the shipper computer the precise delivery details;
- the merchant entrusts the package to the shipper, together with the merchant transaction identifier number;
- the shipper computer records the acceptance of the package in the shipper computer; and
- on delivery of the package, the shipper computer records the

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delivery details and sends them to the customer accounts server.

15. A method as claimed in claim 14, in which the customer accounts server does not send the precise delivery details to the shipper computer until the shipper computer confirms receipt of the package from the merchant.
16. A method as claimed in claim 14 or 15 in which the customer accounts server sends confirmation of delivery to the merchant accounts server.
17. A method as claimed in claim 16, in which the merchant accounts server sends the confirmation of delivery to the merchant computer.
18. A method as claimed in any preceding claim, in which, when the transaction requires the physical delivery of goods to the customer by way of a package entrusted to an agreed shipper having a shipper computer connected to the telecommunications network:-
- the customer accounts server, on sending the payment acceptance message to the merchant accounts server stipulates payment subject to proof of delivery as a payment rule;
- on delivery, the shipper computer sends confirmation of delivery to the customer accounts server; and
- the customer accounts server sends the confirmation of delivery to the system services server to cause the agreed settlement procedure to be updated.
19. A method as claimed in any preceding claim, in which when the nature of the transaction requires the customer to pay directly an additional sum by way of taxation to a government body, the following steps are performed:-

the merchant computer sends with the merchant transaction identifier number, product identification sufficient to determine the

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tax due;

the taxation due is calculated;

5           the taxation due is added to the amount of the payment request as  
a consolidated payment request in the customer computer;

          sending of the transaction acceptance message to the customer  
accounts server, the customer accounts server sends instructions to  
10       the system services server to cause payment to the government  
body.

20.   A method as claimed in claim 19 in which the tax calculation is carried out  
on the customer computer.

15

21.   A method as claimed in claim 19, in which the steps are performed of:-

          the customer computer sends the merchant payment request to the  
system services server for the tax computation;

20

          the system services server calculates the taxation; and

          the system services server sends data on the taxation due to the  
customer computer to form the consolidated payment request.

25

22.   A method as claimed in any of claims 19 to 21, in which:-

          an international tax reference code is downloaded to the merchant  
computer; and

30

          the merchant computer, on receiving an order, uses the  
international tax reference code in the product identification.

23.   A method as claimed in any preceding claim, in which:-

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the merchant computer opens communications with the system services server;

5           the merchant computer sends a coupon having a monetary value and redemption rules to the system services server;

the system services server sends the coupon to the customer computer;

10           the customer computer sends the coupon details to the customer accounts server on sending the transaction acceptance message;

15           the customer accounts server sends the coupon details to the merchant accounts server;

the merchant accounts server accepts the coupon to be used in at least part payment; and

20           the merchant accounts server sends the coupon details to the system services server on sending instructions to the system services server to cause payment to the merchant.

24.       A method as claimed in claim 22, in which the system services server  
25           sends the coupon to the customer computer by first sending it to the customer accounts server.

25.       A method as claimed in claim 23 or 24 in which the coupon is customer specific and the steps are performed of:-

30           the merchant computer sends, with the coupon, merchant transaction identifier numbers; and

the merchant transaction identifier numbers are used to identify the

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customer computers to whom the coupons are to be sent.

26. A method as claimed in any preceding claim, in which the settlement procedure comprises:-

5

the system services server setting up a merchant account;

10

the merchant account server stores the payment acceptance message as an account receivable due for payment in accordance with the agreed payment rules;

15

the merchant account server downloading to the system services server, the accounts receivable requiring settlement; and

the system services server crediting the merchant account with the payment due.

27. A method as claimed in claim 26, in which, after an agreed time interval, the merchant account server sends to the merchant computer details of accounts receivable which have not yet been settled.

20

28. A method as claimed in any preceding claim, in which the steps of the method up to at least the merchant accounts server matching the transaction acceptance message received from the merchant computer and the payment acceptance message received from the customer accounts server are carried out in real time.

25

29. A trading system for carrying out a transaction between a merchant and a customer where the merchant sends the goods and services to the customer, the transaction being carried out over a communications network where the initiating party, namely the customer, to the transaction contacts the merchant through the intermediary of a third party, while if required maintaining anonymity for the customer, the system comprising:

30

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a system services server (8);

a customer account server (7) for connection to a customer computer (2);

5

a merchant accounts server (6) for connection to a merchant computer (3);

10

the customer computer (2) having means for communicating its intention to purchase from the merchant computer (3);

the merchant computer (3) having means for sending a merchant transaction identifier number and payment request to the customer computer (2);

15

the customer computer (2) having means for accepting the transaction by sending a transaction acceptance message including the merchant transaction identifier number to the merchant computer (3);

20

the customer computer (2) having means for sending a transaction acceptance message which includes the merchant transaction identifier number as an addition in the transaction message together with a unique customer transaction identifier to the customer accounts server (7);

25

the customer accounts server (7) having means for sending the transaction acceptance message to the merchant accounts server (6);

30

the customer accounts server (7) having means for sending a payment acceptance message including the transaction acceptance message to the merchant accounts server (6);

the merchant accounts server (6) having means for matching the transaction acceptance received from the merchant computer (3) as



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the payment acceptance message received in the customer accounts server (7); and

the merchant accounts server (6) having means for sending instructions to the system services server (8) to cause payment to the merchant in accordance with an agreed central procedure having agreed payment rules.

30. A trading system for carrying out a transaction between a merchant and a customer where the merchant sends the goods and services to the customer, the transaction being carried out over a communications network where the initiating party, namely the customer, to the transaction contacts the merchant through the intermediary of a third party, while if required maintaining anonymity for the customer, the system comprising:

a system services server (8);

a customer account server (7) for connection to a customer computer (2);

a merchant accounts server (6) for connection to a merchant computer (3);

the system services server (8), the customer accounts server (7), the merchant accounts server (6) and the customer computer (2) and merchant computer (3) have means for carrying out the method as claimed in any of claims 1 to 28.

31. A computer program comprising program instructions for causing a computer to perform the method of any of claims 1 to 28.

32. A computer program comprising program instructions which when loaded into a computer constitute the processing means as claimed in claim 29 or 30.

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33. A computer program as claimed in claim 31 or 32 embodied on a record medium.
- 5 34. A computer program as claimed in claim 31 or 32 stored in a computer memory.
35. A computer program as claimed in claim 31 or 32 embodied on a read-only memory.
- 10 36. A computer program as claimed in claim 31 or 32 carried on an electrical signal carrier.

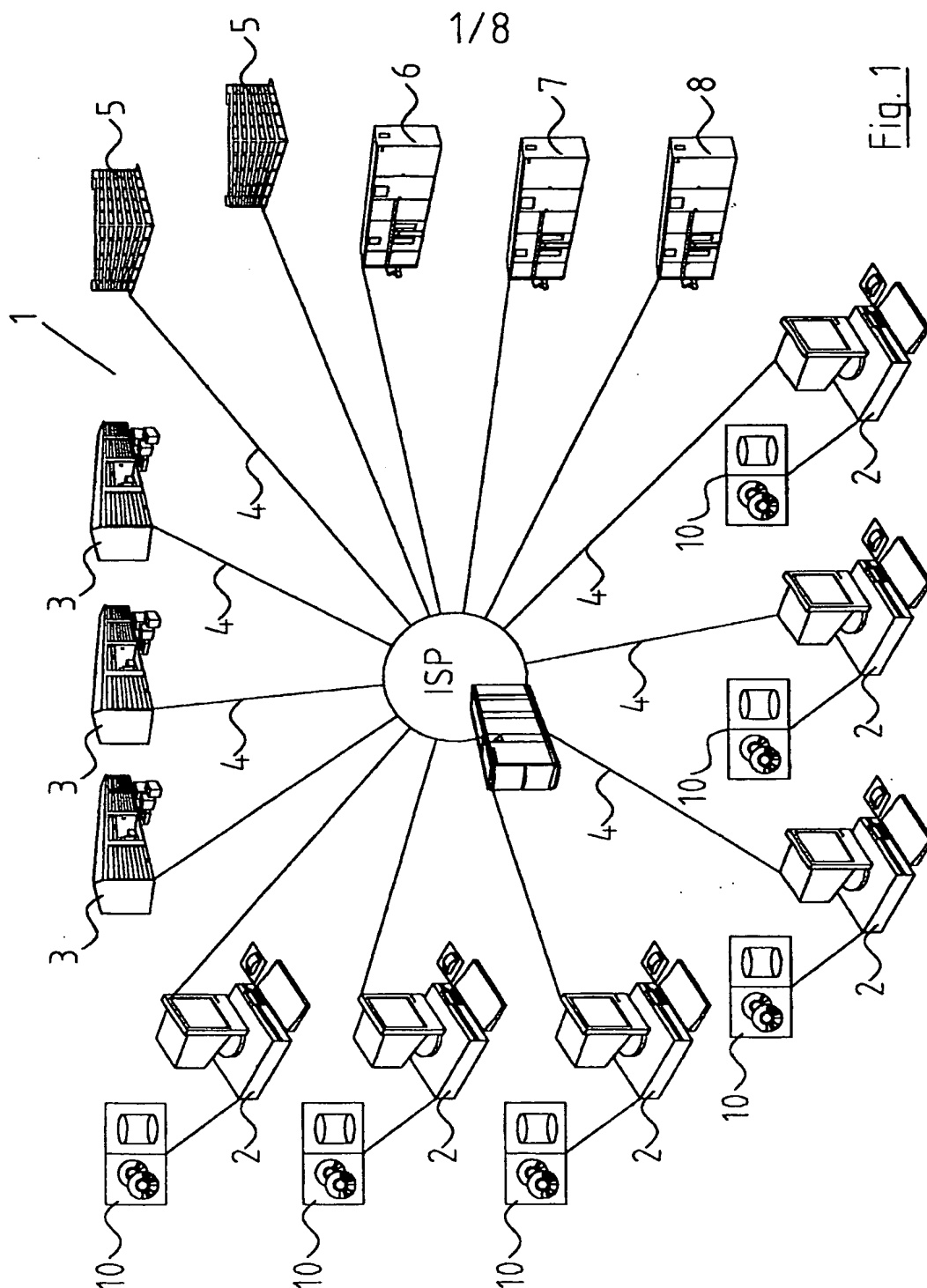


Fig. 1

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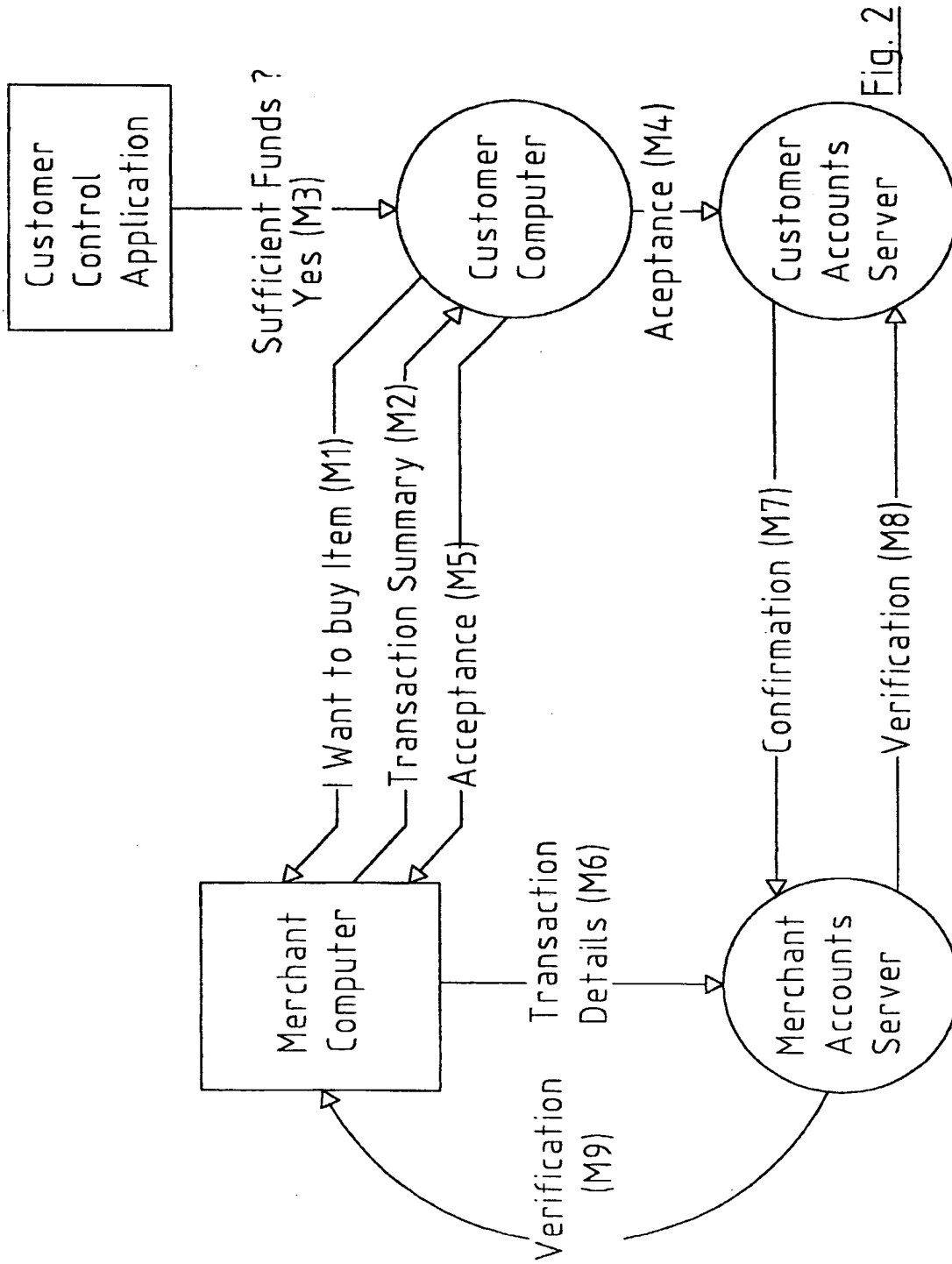


Fig. 2

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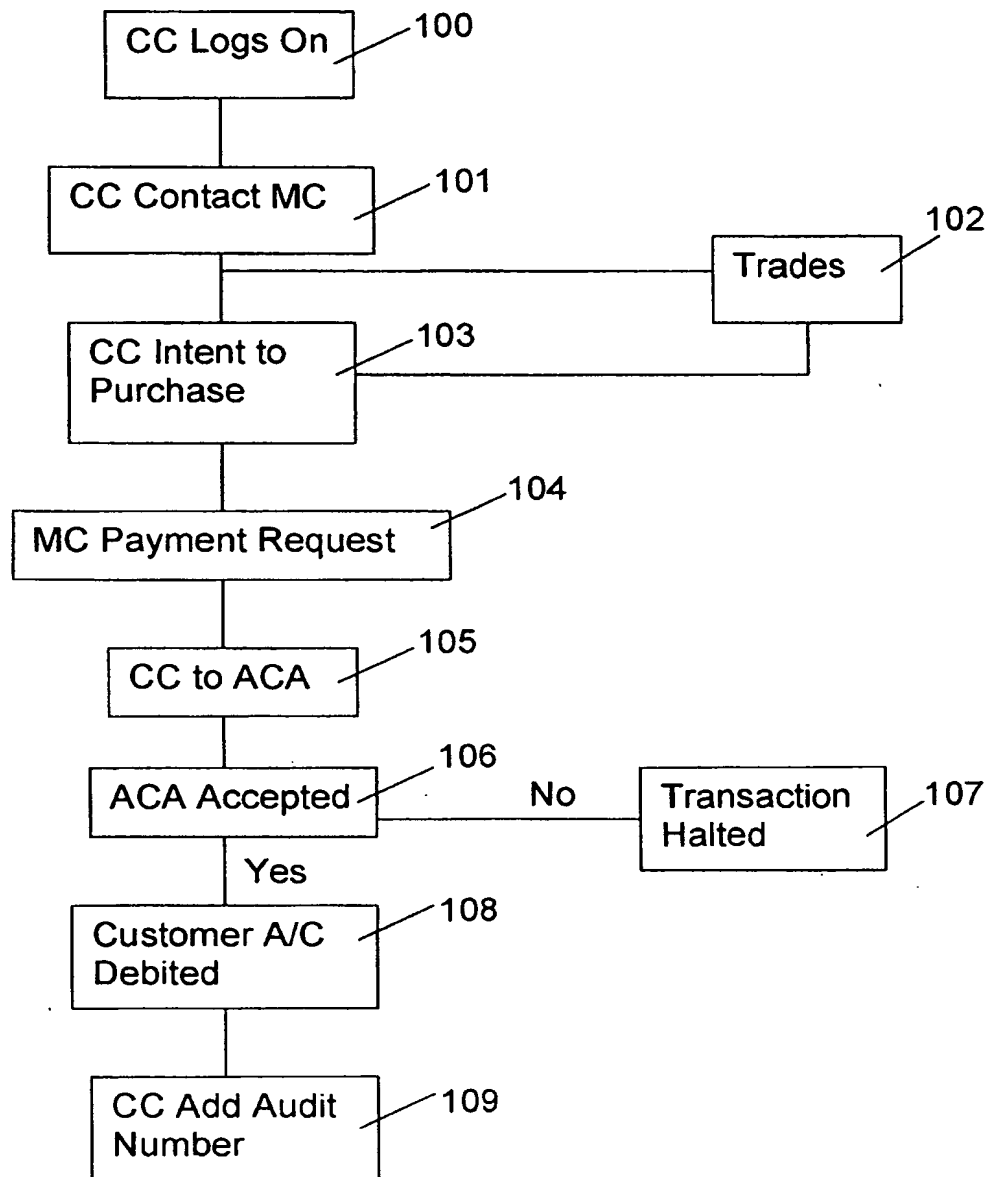


Fig. 3

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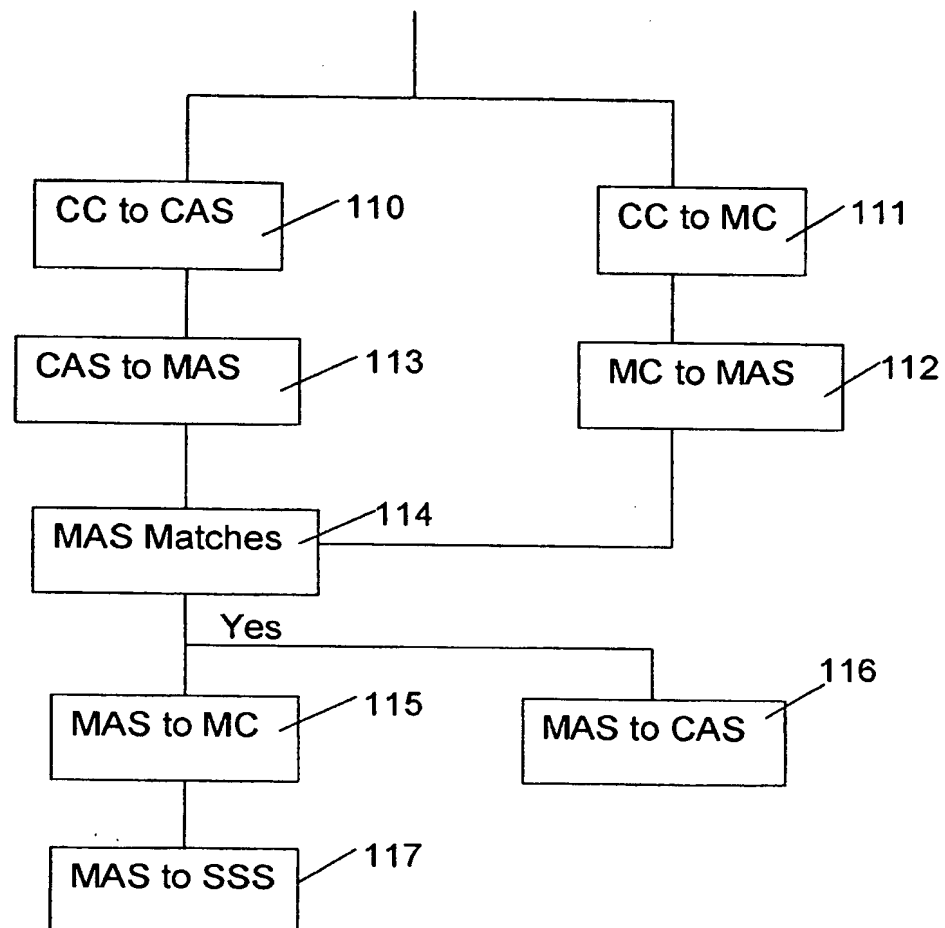


Fig. 4

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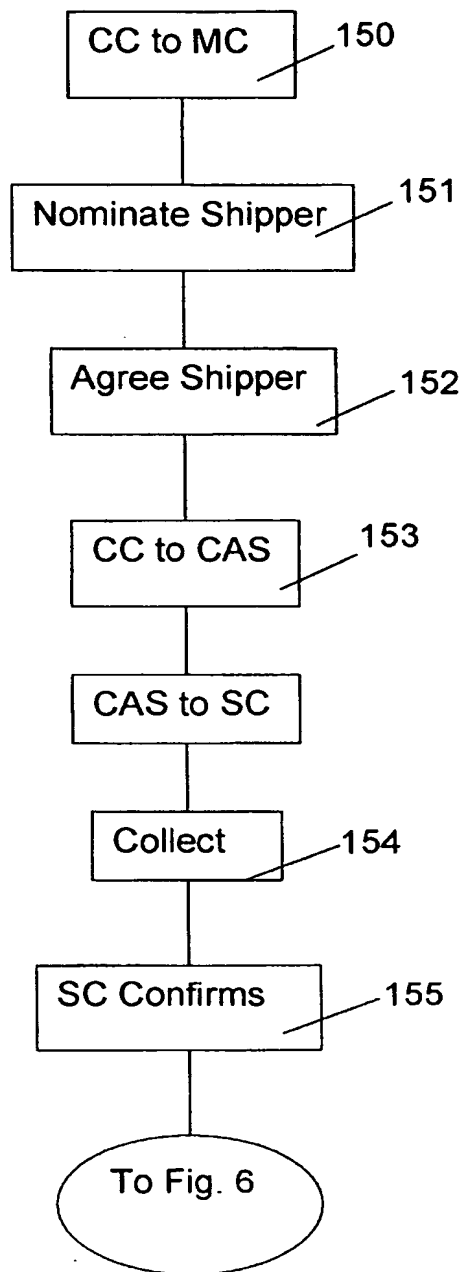


Fig. 5

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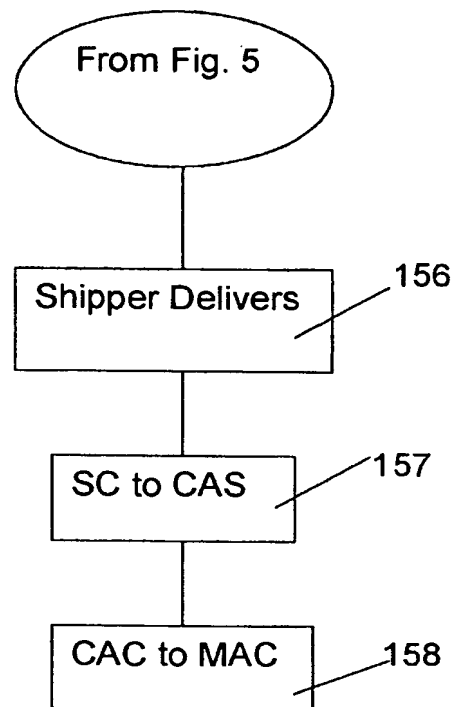


Fig. 6



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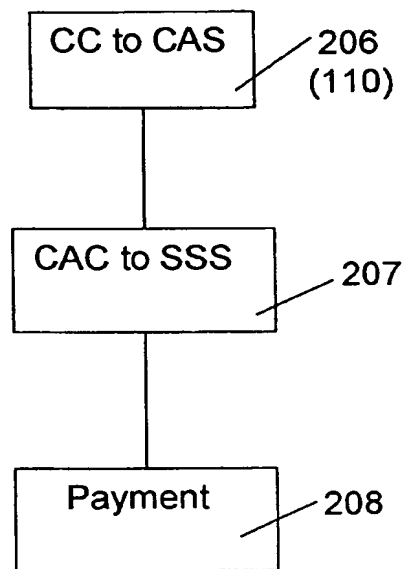


Fig. 7

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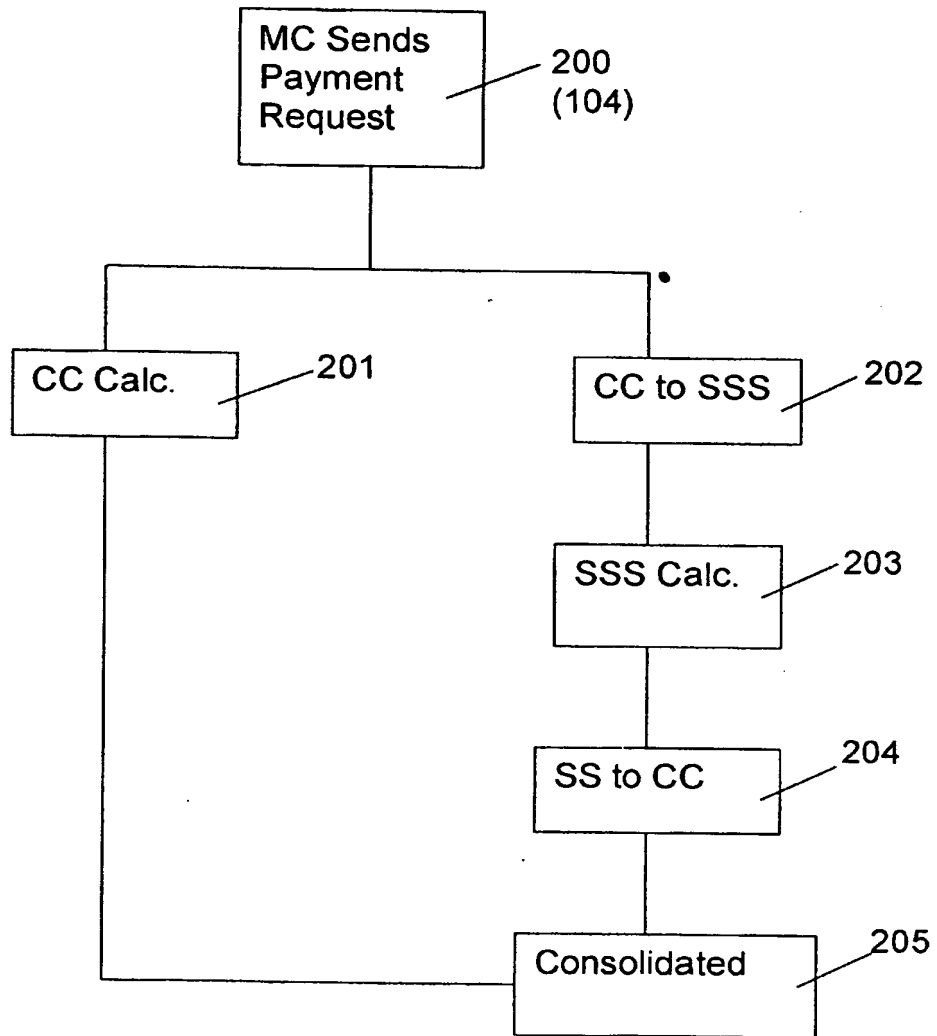


Fig. 8

## INTERNATIONAL SEARCH REPORT

International Application No.

PCT/IE 01/00022

**A. CLASSIFICATION OF SUBJECT MATTER**  
 IPC 7 G06F17/60 G07F19/00

According to International Patent Classification (IPC) or to both national classification and IPC

**B. FIELDS SEARCHED**

Minimum documentation searched (classification system followed by classification symbols)  
 IPC 7 G06F G07F

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practical, search terms used)

EPO-Internal, WPI Data

**C. DOCUMENTS CONSIDERED TO BE RELEVANT**

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
A	US 5 920 847 A (KOLLING RAY ET AL) 6 July 1999 (1999-07-06) column 20, line 38 - line 59 column 27, line 28 -column 29, line 11; figures 7,12,19A-19C ---	1,29-36
A	WO 98 14921 A (CERTCO LLC) 9 April 1998 (1998-04-09) page 28, line 12 -page 30, line 15; figures 1-3 ---	1,29-36
A	US 5 903 721 A (SIXTUS TIMOTHY) 11 May 1999 (1999-05-11) abstract; figures 1-3 ---	1,29-36
P,A	EP 1 017 030 A (IBM) 5 July 2000 (2000-07-05) claims 1,6,7,16-18; figures 2-6 ---	1,14-18, 29-36
-/--		

☒ Further documents are listed in the continuation of box C.

☒ Patent family members are listed in annex.

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- \*8\* document member of the same patent family

Date of the actual completion of the international search

21 May 2001

Date of mailing of the international search report

29/05/2001

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## C.(Continuation) DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
A	US 5 710 887 A (DELLAR CARL ET AL) 20 January 1998 (1998-01-20) column 11, line 4 - line 49; claim 5; figures 1,2,5 ----	14-22
A	EP 0 940 785 A (HITACHI LTD) 8 September 1999 (1999-09-08) abstract; figure 4 column 26, line 15 - line 30 ----	23-25
A	WO 99 66436 A (PROTX LIMITED) 23 December 1999 (1999-12-23) page 4, line 21 -page 5, line 13 page 10, line 12 -page 11, line 17 figure 4 -----	28

# INTERNATIONAL SEARCH REPORT

Information on patent family members

International Application No

PCT/IE 01/00022

Patent document cited in search report		Publication date	Patent family member(s)	Publication date
US 5920847	A	06-07-1999	US 6032133 A	29-02-2000
			US 5465206 A	07-11-1995
			AU 686270 B	05-02-1998
			AU 8098494 A	23-05-1995
			BR 9407964 A	03-12-1996
			CA 2175473 A	11-05-1995
			CA 2175476 A	11-05-1995
			EP 0727072 A	21-08-1996
			HU 74351 A	30-12-1996
			JP 2916543 B	05-07-1999
			JP 9504634 T	06-05-1997
			KR 237935 B	15-01-2000
			LT 96060 A, B	27-01-1997
			LV 11648 A	20-12-1996
			LV 11648 B	20-08-1997
			NO 961707 A	25-06-1996
			NZ 275027 A	24-04-1997
			PL 314309 A	02-09-1996
			WO 9512859 A	11-05-1995
WO 9814921	A	09-04-1998	US 6029150 A	22-02-2000
			AU 4588197 A	24-04-1998
			EP 0944882 A	29-09-1999
US 5903721	A	11-05-1999	AU 6549498 A	29-09-1998
			DE 1008022 T	25-01-2001
			EP 1008022 A	14-06-2000
			ES 2150892 T	16-12-2000
			NO 994428 A	09-11-1999
			WO 9840809 A	17-09-1998
EP 1017030	A	05-07-2000	JP 2000194770 A	14-07-2000
US 5710887	A	20-01-1998	NONE	
EP 0940785	A	08-09-1999	JP 11250163 A	17-09-1999
WO 9966436	A	23-12-1999	AU 4517899 A	05-01-2000
			EP 1097425 A	09-05-2001
			NO 20006449 A	17-01-2001

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